



PATENT
Docket No. 146712004700

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jianwei LIU et al.

Serial No.: 10/687,584

Filing Date: October 20, 2003

For: LUBRICANT FILM CONTAINING
ADDITIVES FOR ADVANCED
TRIBOLOGICAL PERFORMANCE OF
MAGNETIC STORAGE MEDIUM

Examiner: Not Yet Assigned

Group Art Unit: Not Yet Assigned

**INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

MS DD
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO-1449. Copies of the documents are also submitted herewith. The Examiner is requested to make these documents of record.

This Information Disclosure Statement is submitted:

- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief (such as payment of a fee under 37 C.F.R. § 1.17 (p)) is required, Applicants petitions for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **146712004700**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: January 20, 2004

Respectfully submitted,

By: _____

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Form PTO-1449

Docket Number 146712004700

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INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

Applicant

Jianwei LIU et al.

Filing Date October 20, 2003

Group Art Unit Not Yet Assigned

Mailing Date January 20, 2004

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	1.	2/1980	4,188,434	Loran			
	2.	9/1983	4,404,247	Dominguez-Burguette et al.			
	3.	7/1985	4,526,833	Burguette et al.			
	4.	7/1985	4,529,659	Hoshino et al			
	5.	11/1985	4,552,799	Ryoke et al.			
	6.	7/1986	4,601,950	Iida et al.			
	7.	5/1987	4,664,963	Sakai et al.			
	8.	9/1987	4,693,927	Nishikawa et al.			
	9.	11/1988	4,786,544	Saito			
	10.	6/1989	4,839,244	Tsukamoto			
	11.	9/1991	5,049,410	Johary et al.			
	12.	8/1992	5,137,784	Suzuki et al.			
	13.	1/1993	5,178,954	Norman et al.			
	14.	7/1994	5,331,487	Gregory et al.			
	15.	2/1996	5,489,480	Usuki et al.			
	16.	10/1997	5,677,051	Ueda et al.			
	17.	2/1998	5,718,942	Vurens et al.			
	18.	10/1998	5,820,964	Nakakawaji et al.			
	19.	2/1999	5,869,186	Usuki et al.			
	20.	12/1999	6,001,446	Nakada et al.			
	21.	12/1999	6,001,479	Yokosawa et al.			
	22.	8/2000	6,099,762	Lewis			
	23.	8/2000	6,099,896	Stirniman			
	24.	9/2000	6,117,964	Falcone			
	25.	7/1989	4,849,305	Yanagisawa			
	26.	7/1992	5,128,216	Ng			

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Form PTO-1449

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U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	27.	7/1996	5,536,577	Murayama et al.			
	28.	12/1996	5,587,217	Chao et al.			
	29.	01/1999	5,858,536	Yanagisawa			
	30.	04/1997	5,618,639	Ohno et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES	NO
	31.	5/1988	JP63102038	JP			abstract	
	32.	9/1988	JP63225918	JP			abstract	
	33.	10/1988	JP63237216	JP			abstract	
	34.	6/1991	JP3134818	JP			abstract	
	35.	12/1996	JP8319491	JP			abstract	
	36.	9/1998	JP10251676	JP			abstract	

OTHER DOCUMENTS

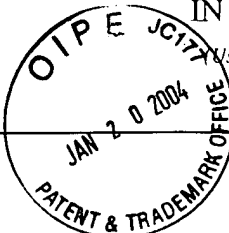
(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	37.	G. Barth et al., "Characterizing the Surface Chemistry of Magnetic Disk Media through Surface Derivatization", Solid State Technology, p. 119-121, January 1989
	38.	M. Yanagisawa, "Adsorption of perfluoro-polyethers on carbon surfaces", ASME/STLE Tribology Conference, p. 25-32, Oct. 16-20, 1994
	39.	B. DeKoven et al., "Chemistry/orientation of lubricants on hard disk magnetic media substrates (CH _x and CN _x) using near edge x-ray absorption fine structure (NEXAFS), (abstract), MRS Spring 98 Meeting, Symposium L, Materials for High-density Magnetic Recording, April 12-16, 1998
	40.	"Magnetic Materials", Annual Report, Ceramics Division, NIST, p. 1,6, 7/21/99

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OTHER DOCUMENTS <i>(including author, title, Date, Pertinent Pages, Etc.)</i>			
Examiner Initials	Ref. No.	Title	
	41.	N. Shukla et al., "The interaction of CF ₃ CH ₂ OH and (CF ₃ CF ₂) ₂ O with amorphous carbon films, <i>Langmuir</i> 2000 , 16, 6562-6568, 5/15/2000	
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